



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |  |
|---|-------------|----------------------|---------------------|------------------|--|
| 10/808,296  | 03/25/2004  | Akiko Nagahara       | 25-270              | 5500             |  |
| 7590  | 04/05/2005  |                      | EXAMINER            |                  |  |
| Arnold International<br>P.O. BOX 129<br>Great Falls, VA 22066 |             | HASAN, MOHAMMED A    |                     |                  |  |
|   |             | ART UNIT             |                     | PAPER NUMBER     |  |
|   |             | 2873                 |                     |                  |  |

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/808,296             | NAGAHARA, AKIKO     |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Mohammed Hasan         | 2873                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1 - 14 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 5 and 6 is/are allowed.  
 6) Claim(s) 1,3,7,8,11 and 12 is/are rejected.  
 7) Claim(s) 2, 4, 9, 10, 13, 14 is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 25 March 2004 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/25/2004</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: ____.                                    |

**DETAILED ACTION**

***Priority***

1. Receipt of acknowledged of papers submitted under 35 U.S.C. 119 (a) – (d), which papers have placed in the file.

***Oath/Declaration***

2. Oath and declaration filed on 3/25/2004 and 9/15/2004 is accepted.

***Information Disclosure Statement***

3. The prior art documents submitted by applicant in the Information Disclosure Statement filed on 3/25/2004 have all been considered and made of record (note the attached copy of form PTO – 1449).

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 7 are rejected under 35 U.S.C. 102 (b) as being anticipated by Yamanashi (5,416,639).

Regarding claim 1, Yamanashi discloses (refer to figures 3 – 7) a zoom lens comprising in order from an enlarging side along an optical axis: a first lens group (I) having a negative refractive power that is movable for focusing and that is stationary during zooming, a second lens group (II) having a positive refractive power that moves during zooming, a third lens group (III) having negative refractive power that moves during zooming, a fourth lens group (IV) having negative refractive power that moves during zooming, a fifth lens group (V) having positive refractive power that is stationary during zooming, wherein the second lens group (II), third lens group (III) and fourth lens group(IV) move relative to one another along the optical axis of the zoom lens during zooming, the second lens group (II) moves toward the enlarging side during zooming from the wide-angle end to the telephoto end and the fourth lens group (IV) is positioned nearer the reducing side when at the telephoto end than when at the wide-angle end (column 3, lines 21 – 57).

Regarding claim 7, Yamanashi discloses (refer to figures 3 – 7) a zoom lens comprising in order from an enlarging side along an optical axis: a first lens group (I) having a negative refractive power that is movable for focusing and that is stationary during zooming, a second lens group (II) having a positive refractive power that moves during zooming, a third lens group (III) having negative refractive power that moves during zooming , a fourth lens group (IV) having negative refractive power that moves during zooming, a fifth lens group (V)having positive refractive power that is

stationary during zooming, wherein the second lens group (II), third lens group (III) and fourth lens group (IV) move relative to one another along the optical axis of the zoom lens during zooming (column 3, lines 21 – 57).

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 7, 8, 11, and 12, are rejected under 35 U.S.C. 102(e) as being anticipated by Wada (6,636,361 B1).

Regarding claim 1, Wada discloses (refer to figures 1A and 1B) a zoom lens (PL) comprising in order from an enlarging side along an optical axis: a first lens group (L1) having a negative refractive power that is movable for focusing and that is stationary during zooming, a second lens group (L2) having a positive refractive power that moves during zooming, a third lens group (L3) having negative refractive power that moves during zooming, a fourth lens group (L4) having negative refractive that moves during zooming, and a fifth lens group (L5) having a positive refractive power that is stationary during zooming, wherein the second lens group (L2), third lens group (L3) and fourth lens group(L4) move relative to one another along the optical axis of the zoom lens during zooming, the second lens group (L2) moves toward the enlarging side during

zooming from the wide-angle end to the telephoto end and the fourth lens group (L4) is positioned nearer the reducing side when at the telephoto end than when at the wide-angle end (column 5, lines 42 – 51, column 6, lines 1 - 11).

Regarding claim 3, Wada discloses (refer to figures 1A and 1B) a projected display device (i.e., an image projection apparatus) (column 4, lines 62 – 65) comprising a light source (column 1, lines 32 – 41) on the reducing side of the zoom lens (PL), a light modulator (GB) positioned between the light source and the zoom lens for modulating light from the light source with image information (i.e., a screen surface S), wherein the zoom lens projects the modulated light so as to form an enlarged image on the enlarging side of the zoom lens (column 5, lines 38 – 67).

Regarding claim 7, Wada discloses (refer to figures 1A and 1B) a zoom lens (PL) comprising in order from an enlarging side along an optical axis: a first lens group (L1) having a negative refractive power that is movable for focusing and that is stationary during zooming, a second lens group (L2) having a positive refractive power that moves during zooming, a third lens group (L3) having negative refractive power that moves during zooming, a fourth lens group (L4) having negative refractive power that moves during zooming, and a fifth lens group (L5) having a positive refractive power that is stationary during zooming, wherein the second lens group (L2), third lens group (L3) and fourth lens group(L4) move relative to one another along the optical axis of the zoom lens during zooming (column 5, lines 42 – 51, column 6, lines 1 - 11).

Regarding claim 8, Wada discloses (refer to figures 1A and 1B ) the second lens group (L2) moves toward the enlarging side during zooming from the wide –angle end

to the telephoto end and the fourth lens group (L4) is positioned nearer the reducing side when at the telephoto end than when at the wide-angle end (column 6, lines 1 – 11).

Regarding claim 11, Wada discloses (refer to figures 1A and 1B ) a projected display device (i.e., an image projection apparatus ) (column 4, lines 62 – 65) comprising a light source (column 1, lines 32 – 41) on the reducing side of the zoom lens, a light modulator (GB) positioned between the light source and the zoom lens (PL) for modulating light from the light source with image information (i.e., a screen surface S), wherein the zoom lens (PL) projects the modulated light so as to form an enlarged image on the enlarging side of the zoom lens (column 5, lines 38 – 67).

Regarding claim 12, Wada discloses (refer to figures 1A and 1B ) a projected display device (i.e., an image projection apparatus ) (column 4, lines 62 – 65) comprising a light source (column 1, lines 32 – 41) on the reducing side of the zoom lens, a light modulator (GB) positioned between the light source and the zoom lens (PL) for modulating light from the light source with image information (i.e., a screen surface S), wherein the zoom lens (PL) projects the modulated light so as to form an enlarged image on the enlarging side of the zoom lens (column 5, lines 38 – 67).

***Allowable Subject Matter***

6. Claims 5, 6 are allowed.

7. The following is an examiner's statement of reasons for allowance: The prior art taken either singularly or in a combination fails to anticipate or fairly suggest the limitations of the independent claims, in such a manner that rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claim 5, for example, which include, a zoom lens having in order from an enlarging side along an optical axis having five lens group having an optical refractive power (- + - - +) and the following condition are satisfied:  
 $-2.2 < F1 / F < -1.2, 0.6 < F2 / F < 1.1, -15.0 < F4 < F -1.5, 0.7 < F5 / F < 1.2$  where F1 is the focal length of the first lens group, F2 is the focal length of the second lens group , F4 is the focal length of the fourth lens group, F5 is the focal length of the fifth lens group and F is the focal length of the zoom lens at the wide-angle end when the zoom lens is focused at infinity on the enlarging side.

8. Claims 2, 4, 9, 10, 13, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to show a zoom lens having five lens group the following condition are satisfied:  $-2.2 < F1 / F < -1.2, 0.6 < F2 / F < 1.1, -15.0 < F4 < F -1.5, 0.7 < F5 / F < 1.2$  where F1 is the focal length of the first lens group, F2 is the focal length of the second lens group , F4 is the focal length of the fourth lens group, F5 is the focal length of the fifth lens group and F is the focal length of the zoom lens at the wide-angle end when the zoom lens is focused at infinity on the enlarging side.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Moscovich (4,116,536) discloses a wide angle lens system.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammed Hasan whose telephone number is (571) 272-2331. The examiner can normally be reached on M-TH, 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571) 272- 2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MH  
March 23, 2005



Georgia Epps  
Supervisory Patent Examiner  
Technology Center 2800